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Gudrun E. Huckett

Gudrun E. Huckett, Patent Agent

First named inventor:	Heinrich Englert et al.
Serial No:	10/073,668
Filing Date:	2/8/2002
Title:	Method for Jointing the Cutting Edge of at Least One Cutting Blade of a Rotating Tool
Examiner:	Charles Goodman
Art Unit:	3724

APPEAL BRIEF

Appellant herewith submits the Appeal Brief pursuant to 37 CFR 41.37 in support of the Notice of Appeal filed February 16, 2006, in the Patent and Trademark Office.

The required **fee for filing a brief in support of an appeal** pursuant to 37 CFR 41.20(b)(2) in the amount of $500.00 is to be charged to USPTO deposit account 501199.

Attached is a **time extension petition** (1 sheet) to extend the period of submitting the appeal brief by one month.

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REAL PARTY IN INTEREST

Real party in interest is the assignee of record, **Michael Weinig Aktiengesellschaft**, Weinigstr. 2/4, 97941 Tauberbischofsheim, Germany.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claim 1 - canceled.

Claim 2 - rejected, on appeal.

Claim 3 - canceled.

Claim 4 - rejected, on appeal.

Claim 5 - rejected, on appeal.

Claim 6 - rejected, on appeal

Claim 7 - rejected, on appeal

Claim 8 - canceled.

Claim 9 - canceled.

Claim 10 - canceled.

Claim 11 - canceled.

Claim 12 - canceled.

Claim 13 - canceled.

Claim 14 - canceled.

Claim 15 - canceled

Claim 16 - rejected, on appeal

Claim 17 - rejected, on appeal.

Claim 18 - rejected, on appeal.

Claim 19 - rejected, on appeal.

Claim 20 - rejected, on appeal.

Claim 21 - rejected, on appeal

Claim 22 - rejected, on appeal

Claim 23 - rejected, on appeal.

Claim 24 - rejected, on appeal.

Claim 25 - rejected, on appeal.

Claim 26 - rejected, on appeal.

Claim 27 - rejected, on appeal

Claim 28 - rejected, on appeal.

Claim 29 - rejected, on appeal.

Claim 30 - rejected, on appeal.

Claim 31 - rejected, on appeal.

STATUS OF AMENDMENTS

An amendment after final was not submitted.

The claims in the appendix reflect the claims as submitted with the amendment dated 8/24/2005.

SUMMARY OF CLAIMED SUBJECT MATTER

Claim 5 defines a method of jointing a cutting edge of at least one cutting blade of a rotating tool. Between tool and the at least one straight jointing stone a radial advancing movement is carried out. The jointing stone has an **active jointing area that is longer than a length of the cutting edge** (page 8, lines 19-21, of the specifcation; see Fig. 1). During jointing **at least one relative stroke** between the jointing stone and the cutting edge in a longitudinal direction of the cutting edge is carried out and the at least one relative stroke has a **stroke length that is shorter than the length of the cutting edge** (see page 4, line 21; see page 5, lines 5-6, of the specification). The stroke length is such that a **rearward end of the jointing stone,** when viewed in the stroke direction, **projects past the cutting edge at the end of the relative stroke** (see page 9, lines 19-21, of the specification)

Claim 16 defines a method of jointing a cutting edge of at least one cutting blade of a rotating tool. A radial advancing movement is carried out between the tool and at least one straight jointing stone having an active jointing area. During jointing **at least one relative stroke** between the jointing stone and the cutting edge in a longitudinal direction of the cutting edge is performed. The at least one relative stroke has a **stroke length that is shorter than a length of the active jointing area** (see page 9, lines 2-6, of the specification).

Claim 23 defines a method of jointing a cutting edge of at least two cutting blades of a rotating tool. The rotating tool and at least one straight jointing stone having an active jointing area are radially advanced relative to one another so that the at least one jointing stone engages the at least two cutting blades. Subsequently, the at least one jointing stone is **oscillated in an axial direction** of the rotating tool **without advancing in the radial direction** (see page 10, lines 10-12, of the specification). The **relative stroke** between the at least one jointing stone and the at least two cutting edges, respectively, has a **stroke length that is shorter than a length of the cutting edge and shorter than a length of the active jointing area** (see page 4, line 21; see page 5, lines 5-6, of the specification; see page 9, lines 2-6, of the specification).

Claim 24 defines a method of jointing a cutting edge of at least two cutting blades of a rotating tool. The rotating tool and at least one straight jointing stone are radially advanced relative to one another so that the at least one jointing stone engages all

cutting edges of the at least two cutting blades. The at least one jointing stone is **oscillated** (see page 10, lines 10-11, of the specification) in an axial direction of the rotating tool by carrying out **several relative strokes** relative to the rotating tool (see page 10, lines 11-12, of the specification). The relative strokes each have a **stroke length that is multiple times shorter than a length of the cutting edge** (see page 5, lines 5-6, of the specification) of the at least two cutting blades, respectively.

Claim 25 defines a method of jointing a cutting edge of at least two cutting blades of a rotating tool. The rotating tool and at least one straight jointing stone having a active jointing area are radially advanced relative to one another so that the at least one jointing stone engages all cutting edges of the at least two cutting blades. The at least one jointing stone is **oscillated** (see page 10, lines 10-11, of the specification) in an axial direction of the rotating tool by carrying out **several relative strokes** relative to the rotating tool (see page 10, lines 11-12, of the specification), wherein the relative strokes each have a **stroke length that is multiple times shorter than a length of the active jointing area** of the at least one jointing stone (see page 9, lines 2-6, of the specification).

Claim 26 defines method of jointing a cutting edge of at least two cutting blades of a rotating tool. First, the rotating tool and at least one straight jointing stone are radially advanced relative to one another so that the at least one jointing stone engages all cutting edges of the at least two cutting blades. Subsequently, the at least one jointing stone is **oscillated** in an axial direction of the rotating tool by carrying out **several relative strokes** relative to the rotating tool **without advancing in the radial direction** (see page 10, lines 10-12, of the specification), wherein the relative strokes each have a **stroke length that is multiple times shorter than a length of the cutting edge** of the at least two cutting blades, respectively (see page 5, lines 5-6, of the specification).

Claim 27 defines a method of jointing a cutting edge of at least two cutting blades of a rotating tool. First, the rotating tool and at least one straight jointing stone having an active jointing area are radially advanced relative to one another so that the at least one jointing stone engages all cutting edges of the at least two cutting blades. Subsequently, the at least one jointing stone is **oscillated** in an axial direction of the rotating tool by carrying out **several relative strokes** relative to the rotating tool **without**

advancing in the radial direction (see page 10, lines 10-12, of the specification), wherein the relative strokes each have a **stroke length that is multiple times shorter than a length of the active jointing area** of the at least one jointing stone (see page 9, lines 2-6, of the specification).

Claim 28 defines a method of jointing a cutting edge of at least two cutting blades of a rotating tool. The rotating tool and at least one straight jointing stone are radially advanced relative to one another so that the at least one jointing stone engages the at least two cutting blades. Subsequently, the at least one jointing stone is **oscillated** in an axial direction of the rotating tool by performing **at least two relative strokes** between the at least one jointing stone and the at least two cutting blades in opposite directions (see page 10, lines 10-12, of the specification), wherein the **stroke length is multiple times shorter than a length of the cutting edge** of the at least two cutting blades (see page 5, lines 5-6, of the specification).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 6 and 7 are indefinite under 35 USC 112, 2nd paragraph.

Whether claims 16, 17, 19-27 are unpatentable under 35 U.S.C. 103(a) over *Theien (US 4,581,856)* and *Englert (DE 39 27 230)*.

Whether claim 18 is unpatentable under 35 U.S.C. 103(a) over *Thelen (US 4,581,856)* in view of *Englert (DE 39 27 230)* and *Mann (US 2,864,210)*.

Whether claims 2, 4-7, 28-31 are unpatentable under 35 U.S.C. 103(a) over *Theien (US 4,581,856)* in view of *Englert (DE 39 27 230)* and *Mann (US 2,864,210)*.

ARGUMENT

Rejection of claims 6 and 7 under 35 U.S.C. 112, 2nd paragraph

The examiner states that claim 6 is vague and indefinite because the subject matter is not shown in the drawing and because the language of claim1 (this should read claim 28 as claim 6 now depends from claim 28 and not from claim 1) sets forth that the length of the stone is greater than the cutting edge.

The examiner has refused to enter Fig. 7 that shows as required by the objection to the drawings under 37 CFR 1.83(a) two stone members because in examiner's view the illustration is not the only manner that complies with the specification since the stone members may be profiled and the minimal spacing does not have to be to the extent shown in the drawings (could be larger or smaller).

The refused drawing Fig. 7 shows without adding new matter based on the illustration of Fig. 2 a jointing stone that is interrupted so as to indicate that it is comprised of at least two jointing stone members 25a.

The examiner's argument that the jointing stones could be profiled is incorrect as the entire specification specifically and explicitly deals with **jointing by straight stones**. The invention is not directed to profiled stones, therefore it would be contrary to the gist of the invention to have profiled jointing stones. The profiled stones do not allow for axial movement of the jointing stones along the cutting edges to be jointed. The examiner's suggestion makes no sense in light of the specification and claims.

Also, the examiner#s remarks that the spacing could be different is without merit as the drawing is a schematic one and not to scale - no size indication is provided anywhere in the drawings.

The specification (page 12, lines 3ff) sets forth that the axial spacing between the stones is minimal. It is also set forth that the jointing stones project with their ends past the cutting edge. The stone members are secured by holders 17, 18. The axial stroke of the two jointing stone members after radial advancement is selected such that it is greater than the spacing between the two jointing stone members. This is what is being shown in Fig. 7.

Since the invention discloses that instead of the single jointing stone two jointing stones can be used in order to comply with the concept of the invention, it is a technically mandatory feature that the spacing between the two jointing stones that are

to replace a single jointing stone is as small as possible. The inventive concept is to cover the entire cutting-edge length by the jointing stone in order to enable small jointing stroke lengths. Therefore, the spacing between the jointing stones must be very small. The general concept of the invention is that the stroke of the jointing stone or the two jointing stone members that replace a single jointing stone is minimal in comparison to the length of the cutting edge.

The subject matter of claims 6 and 7 is clearly set forth in the specification and shown in the drawing Fig. 7 whose refusal of acceptance is without any merit in appellant's view.

Rejection of claims 16, 17, and 19 to 27 under 35 U.S.C. 103(a) over *Theien* and *Englert et al.*

Claims 16, 23, 24, 25, 26, 27

In regard to examiner's remarks in the final rejection (page 3, item 7) that the claims 23-28 are interpreted as non-simultaneous jointing of at least two cutting edges because there is no support in the specification nor the drawings in regard to simultaneous jointing, appellant respectfully submits that the specification (page 6, lines 15-18) sets forth that Fig. 1 shows a blade head 1 of a woodworking machine fixedly connected to a rotatably driven shaft. The blade head 1 is provided about its periphery with receptacles 2 for the cutting blades; reference is being made to Fig. 6 showing such an arrangement. It is also stated that the cutting blades 3 are secured in the receptacles 2 as is known in the art by means of clamping wedges 4 or the like.

The term "simultaneously" has never been used by appellant, and it is has never been implied that two edges are jointed "simultaneously". The nature of jointing a rotary tool with several cutting edges is that the cutting edges are sequentially jointed for one rotation of the tool. When referring to at least two cutting edges in the claims, appellant merely sets forth that with a single jointing operation several cutting blades on the same tool are jointed. As set forth in the specification (see page 2, lines 7-18), the object of jointing is to provide uniform cutting edges of the cutting blades of the tool so that they imprint uniformly on the surface of the workpiece to be machined. This is done by adjusting the cutting edges so as to be positioned on a uniform cutting circle and by subsequent jointing.

In regard to the independent claims 16, 23, 24, 25, 26, 27 (the examiner does not individually address the claims), examiner states that *Theien* discloses the invention substantially as claimed referring to jointing stones 40 and 140 that have an active jointing area longer than the length of the cutting edge; the examiner refers to Figs. 4 and 6. The examiner correctly points out that *Theien* does not disclose at least one relative stroke being perfomed. However, examiner states that in col. 3, lines 24 38, *Theien* discusses that in the jointing art it is known to perform at least one stroke in the longitudinal direction of the cutting edge. The examiner further points out that *Englert* teaches a jointing device that performs at least one relative stroke between the jointing stone 13 and the cutting edge (not shown in the Figs.) wherein the stroke is inherently shorter than the length of the cutting edge because the stroke length is limited by the members 5, 6 and the length of the inherent cutting edge having to be as long as the length between the members 5, 6, if not longer. According to the examiner, the teachings of both references suggest that the relative stroke movement allows for more even wear and that the stroking action provides better grinding motion between jointing stone and cutting edge and that therefore it would have been obvious to combine the teachings of the two references.

Appellant is of the opinion that examiner in evaluating the present invention considers the cited references only with regard to individual features that are disclosed but not in regard to the context in which these features are presented in the individual references. Appellant has never contested that it is known in the art to provide jointing stones that are longer than the cutting edge to be jointed. Also, appellant has never contested that it is known that during the jointing step the jointing stones are moved along the cutting edge to be jointed. These individual features are known in the art. However, these features must not be considered isolated and apart from the context in which they are disclosed. The context in which the features are presented must be taken into account in order to evaluate what the prior art features fairly teach.

Theien discloses the jointing device with joint stones 40, 140. The joint stone 40 is a profiled joint stone used for jointing profiled cutting edges; the straight joint stone 140 is provided for jointing straight cutting edges. The jointing device as illustrated in the drawings of *Theien* is designed such that during the jointing process no relative movement in the axial direction is carried out between the jointing stones 40 or the jointing stones 140 and the cutting edges. Such an axial movement is not possible

anyway for a profiled cutting edge because the complementary profiles cannot be moved relative to one another. *Theien* also does not disclose that the straight joint stone 140 is axially moved during jointing. *Theien* never considers axial movement between the joint stones 40,140 and the cutting edges to be jointed.

The present invention also discusses the problems of straight jointing with a jointing stone that is longer than the cutting edge and that is advanced only in the radial direction toward the cutting stone (see page 4, lines 4 to 11). This is the same concept as the one disclosed by *Theien*.

The examiner refers to the disclosure in col. 3, lines 24 to 38, of *Theien* in regard to demonstrating that it is generally known in the art to move stones lengthwise relative to cutting edges. The cited text portion discloses that it is known for straight cutters to employ relatively narrow stones and to feed the narrow stones lengthwise to bring all cutting edges to the same radius. This is the same concept that is discussed in the present invention; page 3, line 16, to page 4, line 1, and the same concept disclosed in *Englert*. The narrow jointing stones 13 are moved across the cutting edge on the support 12. As it is apparent from the drawings of *Englert*, the jointing stones 13 are relatively narrow and therefore are subject to quick wear. The jointing result in the extreme is a conically tapering cutting blade. Also, the jointing process requires relatively long strokes: the support 12 is moved between the end members 5, 6 so that the stroke length is more than one-third of the cutting-edge length (assuming that the cutting edge is maximally as long as the respective end positions of the jointing stones 13 at the end members 5, 6). Examiner contents that the cutting edge could be longer than the distance of the end members 5, 6 (page 4, lines 12-13, of the final rejection); however, jointing a cutting edge that is longer than the maximum jointing reach of the jointing stones makes no sense because the end portions of the cutting edge would then not the jointed.

In this context, the discussion in col. 3, lines 16-18, of *Theien* is of great importance: *Theien* states that the need for and practice of jointing plural cutters on a spindle has been recognized for years. Accordingly, at the time of the invention of *Theien* (1983) it has been recognized in the art that the jointing methods known at the time (1983) are problematic. In col. 2, lines 50ff, the prior art discussed in *Theien* is identified. References A and B are from 1950 and 1960, respectively. Accordingly,

Theien presents a solution to a problem unsolved. The information provided in *Theien* demonstrates that in the time period from 1950 to 1983, persons skilled in the art have worked on the problem of jointing of cutting blades without apparently arriving at the solution according to the invention. If the inventive solution had been so obvious in view of the knowledge in the art in 1983, *Theien* should have presented the solution as claimed in the present invention. However, *Theien* pursues quite a different solution with stationary jointing stones that do not move longitudinally relative to the cutting edges.

Englert shows no more than what is already disclosed in col. 3, lines 24-38, of *Theien*. The text of col. 3, lines 24-38, disclose the same narrow jointing stones as the stones 13 in *Englert*. Therefore, *Englert* provides nothing more than what is already disclosed in *Theien*. There is not even a need to employ this secondary reference.

Even though *Theien* knows of narrow jointing stones that are axially moved along the cutting edge, *Theien* proposes quite a different solution in that the jointing stones are axially fixed, i.e., immobile relative to the cutting edges in the axial direction across the cutting edge. Even though known by *Theien*, the concept of moving jointing stones is not used as a basis for the solution presented in *Theien*. Instead, a completely different solution is presented. The jointing stones 40,140 are not moved along the cutting edge (stone 140 is a straight stone). The jointing device as exemplified in Figs. 5 and 6 of *Theien* has no means for moving the jointing stone 140 during jointing in the longitudinal (axial) direction of the cutting edge to be jointed. Moving the stones in this way is never considered by *Theien*. Accordingly, in the year 1983 a solution is proposed (long stone covering the length of the cutters; no axial movement) which is quite the opposite of the solution presented in the instant application (long stone covereing the length of the cutter and short oscillating movements that are multiple times shorter than the cutting edge or the active jointing area).

Theien at the time of conception of his invention knew that jointing stones (narrow ones) can be moved along the cutting edge for jointing. However, in spite of knowing the concept of moving narrow jointing stones across cutting edges, *Theien* proposes a solution with **axially fixed straight jointing stones** having a length that is greater than the length of the cutting edge. There is no motivation to provide axial movement for the *Theien* arrangement as the stones cover the length of the cutting edge - in *Englert* the

stones are short and therefore must be moved to joint the entire length of the cutting edge.

Looking at *Englert* alone, there is also no suggestion to a person skilled in the art to arrive at the solution according to the invention. This prior art reference is based on the premise that with the same jointing device it should be possible to perform straight jointing as well as profile jointing. Accordingly, the jointing device has a support 12 that is provided with narrow jointing stones 13 and movable along the guide 11. Movement along the guide 11 is carried out when the jointing stones 13 are to be used for straight jointing. The support 12 is positioned on a pivotable body 4 that can be pivoted or swivelled about axles 7, 8. This pivot movement is carried out when the jointing stones 13 are used for jointing profiles. The gist of this disclosure is quite different from the problem to be solved with the present invention.

In the present invention the jointing device or the jointing method is to be designed such that the cutting edge to be jointed is optimally jointed with minimal wear on the jointing stones. This is achieved in that the axial relative movement between the jointing stone that has a length corresponding approximately to the cutting length and the cutting edge is carried out only to a minimal degree. The jointing stroke is multiple times smaller than the cutting edge length or the active jointing area. Accordingly, the cutting edge is still jointed across the entire length. By the inventive method, a microscopically smooth cutting edge is obtained that, in turn, leads to a very high surface quality of the workpiece machined with the jointed cutting edges. As a result of the minimal stroke length, the time required for jointing is also significantly shortened in comparison to the jointing method according to *Englert*, for example. The jointing stones 13 have a relatively large spacing from one another that is illustrated in particular in Fig. 1. The spacing between the jointing stones is significantly greater than the width of the jointing stones 13. It is apparent that the jointing stones 13 must carry out long strokes in order to joint the cutting edge across its entire length. The jointing stroke is much larger than the active jointing area of the stone.

This secondary reference to *Englert* therefore cannot provide any motivation to design the jointing method such that the stroke length for jointing is several times shorter than the length of the cutting edge to be jointed and/or the length of the jointing area.

The examiner does not take into consideration that the stroke length as proposed by the present invention, in comparison to the length of the cutting edge to be jointed

or the active jointing area of the stone, is very small. In the specification, page 9, lines 4-6, a stroke of approximately 20 mm is mentioned. This is much shorter than the usual cutting edge length of cutting blades of woodworking machines (working width up to 300 mm). The two prior art references do not disclose the particular ratio between the stroke length and the length of the cutting edge to be jointed or the jointing area of the jointing stone. *Englert*, when looking at the drawing Fig. 1, discloses that the stroke length is more than one third of the length of the cutting edge length to be jointed.

The present invention as claimed in claim 23 differs from this in that the stroke length of the jointing stone is several times shorter than the length of the cutting edge to be jointed and the length of the active jointing area.

The present invention as claimed in claims 24 and 26 differs from this in that the stroke length of the jointing stone is several times shorter than the length of the cutting edge to be jointed.

The present invention as claimed in claims 25 and 27 differs from this in that the stroke length of the jointing stone is several times shorter than the length of the active jointing area.

The important feature of the present invention is that during the jointing process oscillating movements in axial direction of the jointing stone are carried out with a very small stroke. This is not disclosed in *Theien* or *Englert*. Oscillation in connection with the aforementioned feature of short stroke length provides a significantly improved jointing result in the form of microscopically smooth cutting edges (see specification, page 5, lines 10-12; page 11, lines 5-9).

In regard to **claim 5** *Theien* and *Englert* do not show that a jointing stone having an active jointing area that is longer than the cutting edge is moved by relative stroke between the jointing stone and the cutting edge in a longitudinal direction of the cutting edge (*Theien* has stationary jointing stone; *Englert* shows short stones that are much shorter than the cutting edge; and *Theien* explicitly does not use axial movement for his jointing stones in knowledge of the teachings of *Englert*) such that the stroke length is shorter than the length of the cutting edge and the stroke length is such that a rearward end of the jointing stone, when viewed in the stroke direction, projects past the cutting edge at the end of the relative stroke (*Englert* does not show where the stones are positioned relative to the cutting edge). Claim 5 is not obvious in view of *Theien* and

Englert.

In regard to **claim 16** *Theien* and *Englert* do not show that during jointing at least one relative stroke between the jointing stone and the cutting edge in a longitudinal direction of the cutting edge is performed wherein the at least one relative stroke has a stroke length that is shorter than a length of the active jointing area (*Theien* has stationary jointing stone; *Theien* explicitly does not use axial movement for his jointing stones in knowledge of the teachings of *Englert*; *Englert* shows short stones that are much shorter than the cutting edge and therefore must perform long strokes - longer than their width or active jointing area - in order to cover the length of the cutting edge; i.e. the stroke length is much longer than the jointing area of the jointing stone - looking at Fig. 1 of *Englert*). Claim 16 is not obvious in vew of *Theien* and *Englert*.

In regard to **claim 23** *Theien* and *Englert* do not show that the at least one jointing stone is oscillated in an axial direction of the rotating tool without advancing in the radial direction (*Theien* has stationary jointing stone; *Theien* explicitly does not use axial movement for his jointing stones in knowledge of the teachings of *Englert)* wherein the stroke length of the jointing stone is shorter than a length of the cutting edge and shorter than a length of the active jointing area (*Englert* shows short stones that are much shorter than the cutting edge and therefore must perform long strokes - longer than their active jointing area - in order to cover the length of the cutting edge, i.e. the stroke length is much longer than the jointing area of the jointing stone; looking at Fig. 1 of *Englert*). Claim 23 is not obvious in view of *Theien* and *Englert*.

In regard to **claim 24** *Theien* and *Englert* do not show that the at least one jointing stone is oscillated an axial direction of the rotating tool by carrying out several relative strokes relative to the rotating tool (*Theien* has stationary jointing stone; *Theien* explicitly does not use axial movement for his jointing stones in knowledge of the teachings of *Englert)* wherein the relative strokes each have a stroke length that is multiple times shorter than a length of the cutting edge of the at least two cutting blades, respectively (*Englert* shows short stones that are much shorter than the cutting edge and therefore must perform long strokes in order to cover the length of the cutting edge, i.e., the strokes are not multiple times shorter than the cutting length). Claim 24 is not obvious in view of *Theien* and *Englert*.

In regard to **claim 25** *Theien* and *Englert* do not show a jointing stone that is

oscillated in an axial direction of the rotating tool by carrying out several relative strokes relative to the rotating tool (*Theien* has stationary jointing stone; *Theien* explicitly does not use axial movement for his jointing stones in knowledge of the teachings of *Englert)* wherein the relative strokes each have a stroke length that is multiple times shorter than a length of the active jointing area of the at least one jointing stone (*Englert* shows short stones that are much shorter than the cutting edge and therefore must perform long strokes - longer than their active jointing area - in order to cover the length of the cutting edge; i.e. the stroke length is much longer than the jointing area of the jointing stone - looking at Fig. 1 of *Englert).* Claim 25 is not obvious in view of *Theien* and *Englert*.

In regard to **claim 26** *Theien* and *Englert* do not show that after radially advancing one another, the at least one jointing stone is oscillated in an axial direction of the rotating tool by carrying out several relative strokes relative to the rotating tool without advancing in the radial direction (*Theien* has stationary jointing stone; *Theien* explicitly does not use axial movement for his jointing stones in knowledge of the teachings of *Englert)* wherein the relative strokes each have a stroke length that is multiple times shorter than a length of the cutting edge of the at least two cutting blades, respectively (*Englert* shows short stones that are much shorter than the cutting edge and therefore must perform long strokes in order to cover the length of the cutting edge, i.e., the strokes are not multiple times shorter than the cutting length). Claim 26 is not obvious in view of *Theien* and *Englert*.

In regard to **claim 27** *Theien* and *Englert* after radially advancing one another, the at least one jointing stone is oscillated in an axial direction of the rotating tool by carrying out several relative strokes relative to the rotating tool without advancing in the radial direction (*Theien* has stationary jointing stone; *Theien* explicitly does not use axial movement for his jointing stones in knowledge of the teachings of *Englert)* wherein the relative strokes each have a stroke length that is multiple times shorter than a length of the active jointing area of the at least one jointing stone (*Englert* shows short stones that are much shorter than the cutting edge and therefore must perform long strokes - longer than their active jointing area - in order to cover the length of the cutting edge; i.e. the stroke length is much longer than the jointing area of the jointing stone - looking at Fig. 1 of *Englert*). Claim 27 is not obvious in view of *Theien* and *Englert*.

Rejection of claims 2, 4-7, and 28-31 under 35 U.S.C. 103(a) over *Theien* and *Englert et al.* and *Mann*

The examiner employs the same arguments in regard to *Theien* and *Englert* as in the above rejection under 103(a). The examiner cites *Mann* as showing that the jointing stone 22 is moved at least twice across the cutting edge so that the feature of *"at least two relative strokes"* is obvious in combination with *Theien* and *Englert.*

In regard to the disclosure of *Theien* and *Englert,* reference is being had to the above detailed discussion of these two references.

In regard to *Mann* appellant respectfully submits that this reference shows nothing but a manual back and forth movement of a sharpening stone, wherein this sharpening stone is very narrow and must perform a stroke length that is more than 10 times as long as the width of the stone 22 (see Fig. 3). Appellant has presented conclusive arguments why the references *Theien* and *Englert* do not make obvious the axial movement by short jointing strokes in regard to the device of *Theien; Mann* does not disclose more than *Englert* so that the basic concept of short axial movement is not obvious in view of *Theien, Englert,* and *Mann.*

In regard to **claim 5** *Theien* and *Englert* do not show that a jointing stone having an active jointing area that is longer than the cutting edge is moved by relative stroke between the jointing stone and the cutting edge in a longitudinal direction of the cutting edge (*Theien* has stationary jointing stone; *Englert* shows short stones that are much shorter than the cutting edge; and *Theien* explicitly does not use axial movement for his jointing stones in knowledge of the teachings of *Englert* - *Mann* teaches the same set-up as *Englert*) such that the stroke length is shorter than the length of the cutting edge and the stroke length is such that a rearward end of the jointing stone, when viewed in the stroke direction, projects past the cutting edge at the end of the relative stroke. Claim 5 is not obvious in view of *Theien, Englert* and *Mann*.

In regard to **claim 28** *Theien* and *Englert* do not teach that, after radially advancing one another, the at least one jointing stone is oscillated in an axial direction of the rotating tool by performing at least two relative strokes between the at least one jointing stone and the at least two cutting blades in opposite directions (*Theien* has stationary jointing stone; *Englert* shows short stones that are much shorter than the cutting edge; and *Theien* explicitly does not use axial movement for his jointing stones

in knowledge of the teachings of *Englert* - *Mann* teaches the same set-up as *Englert*) wherein the stroke length is multiple times shorter than a length of the cutting edge of the at least two cutting blades (*Englert* and *Mann* show short stones that are much shorter than the cutting edge and therefore must perform long strokes in order to cover the length of the cutting edge, i.e., the strokes are not several times shorter than the cutting length). Claim 28 is not obvious in view of *Thelen* and *Englert* and *Mann*.

CONCLUSION

For the reasons stated above, appellant believes that appealed claims are allowable over the cited prior art references, and respectfully requests that the Board of Patent Appeals and Interferences reconsider the rejection of the appealed claims and reverse the decision of the examiner in whole.

Authorization is herewith given to charge any fees or any shortages in any fees required during prosecution of this application and not paid by other means to Patent and Trademark Office deposit account 50-1199.

Respectfully submitted on May 16, 2006,

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CLAIMS APPENDIX

2. The method according to claim 28, wherein the jointing stone is longer than the cutting edge plus the length of the relative stroke.

4. The method according to claim 28, wherein the at least one relative stroke has a stroke speed that is multiple times smaller than a rotational speed of the rotating tool.

5. A method of jointing a cutting edge of at least one cutting blade of a rotating tool, wherein between the tool and at least one straight jointing stone a radial advancing movement is carried out and wherein the jointing stone has an active jointing area that is longer than a length of the cutting edge, the method comprising the step of:

performing during jointing at least one relative stroke between the jointing stone and the cutting edge in a longitudinal direction of the cutting edge, wherein the at least one relative stroke has a stroke length that is shorter than the length of the cutting edge;

wherein the stroke length is such that a rearward end of the jointing stone, when viewed in the stroke direction, projects past the cutting edge at the end of the relative stroke.

6. The method according to claim 28, wherein the jointing stone is comprised of at least two jointing stone members arranged in the stroke direction at a relative spacing to one another, respectively, and wherein the stroke length is greater than the relative spacing.

7. The method according to claim 6, wherein the jointing stone members each have a length shorter than the length of the cutting edge.

16. A method of jointing a cutting edge of at least one cutting blade of a

rotating tool, wherein a radial advancing movement is carried out between the tool and at least one straight jointing stone having an active jointing area, the method comprising the step of:

performing during jointing at least one relative stroke between the jointing stone and the cutting edge in a longitudinal direction of the cutting edge, wherein the at least one relative stroke has a stroke length that is shorter than a length of the active jointing area.

17. The method according to claim 16, wherein the jointing stone is longer than the cutting edge by the length of the relative stroke.

18. The method according to claim 16, wherein during jointing at least two relative strokes are performed in opposite directions.

19. The method according to claim 16, wherein the relative stroke has a stroke speed that is multiple times smaller than a rotational speed of the rotating tool.

20. The method according to claim 16, wherein the jointing stone is comprised of at least two jointing stone members arranged in the stroke direction at a relative spacing to one another, respectively, and wherein the stroke length is greater than the relative spacing.

21. The method according to claim 20, wherein the jointing stone members each have a length shorter than the length of the cutting edge.

22. The method according to claim 16, wherein the stroke length is multiple times shorter than the length of the cutting edge.

23. A method of jointing a cutting edge of at least two cutting blades of a rotating tool, the method comprising the steps of:

radially advancing the rotating tool and at least one straight jointing stone having an active jointing area relative to one another so that the at least one jointing

stone engages the at least two cutting blades;

subsequently, oscillating the at least one jointing stone in an axial direction of the rotating tool without advancing in the radial direction, wherein a relative stroke between the at least one jointing stone and the at least two cutting edges, respectively, has a stroke length that is shorter than a length of the cutting edge and shorter than a length of the active jointing area.

24. A method of jointing a cutting edge of at least two cutting blades of a rotating tool, the method comprising the steps of:

radially advancing the rotating tool and at least one straight jointing stone relative to one another so that the at least one jointing stone engages all cutting edges of the at least two cutting blades;

oscillating the at least one jointing stone in an axial direction of the rotating tool by carrying out several relative strokes relative to the rotating tool, wherein the relative strokes each have a stroke length that is multiple times shorter than a length of the cutting edge of the at least two cutting blades, respectively.

25. A method of jointing a cutting edge of at least two cutting blades of a rotating tool, the method comprising the steps of:

radially advancing the rotating tool and at least one straight jointing stone having a active jointing area relative to one another so that the at least one jointing stone engages all cutting edges of the at least two cutting blades;

oscillating the at least one jointing stone in an axial direction of the rotating tool by carrying out several relative strokes relative to the rotating tool, wherein the relative strokes each have a stroke length that is multiple times shorter than a length of the active jointing area of the at least one jointing stone.

26. A method of jointing a cutting edge of at least two cutting blades of a

rotating tool, the method comprising the steps of:

first radially advancing the rotating tool and at least one straight jointing stone relative to one another so that the at least one jointing stone engages all cutting edges of the at least two cutting blades;

subsequently, oscillating the at least one jointing stone in an axial direction of the rotating tool by carrying out several relative strokes relative to the rotating tool without advancing in the radial direction, wherein the relative strokes each have a stroke length that is multiple times shorter than a length of the cutting edge of the at least two cutting blades, respectively.

27. A method of jointing a cutting edge of at least two cutting blades of a rotating tool, the method comprising the steps of:

first radially advancing the rotating tool and at least one straight jointing stone having an active jointing area relative to one another so that the at least one jointing stone engages all cutting edges of the at least two cutting blades;

subsequently, oscillating the at least one jointing stone in an axial direction of the rotating tool by carrying out several relative strokes relative to the rotating tool without advancing in the radial direction, wherein the relative strokes each have a stroke length that is multiple times shorter than a length of the active jointing area of the at least one jointing stone.

28. A method of jointing a cutting edge of at least two cutting blades of a rotating tool, the method comprising the steps of:

radially advancing the rotating tool and at least one straight jointing stone relative to one another so that the at least one jointing stone engages the at least two cutting blades;

subsequently, oscillating the at least one jointing stone in an axial direction

of the rotating tool by performing at least two relative strokes between the at least one jointing stone and the at least two cutting blades in opposite directions, wherein the stroke length is multiple times shorter than a length of the cutting edge of the at least two cutting blades.

29. The method according to claim 28, wherein the at least one jointing stone always engages an entire length of the cutting edge.

30. The method according to claim 28, wherein the step of oscillating is carried out without radially advancing the at least one jointing stone.

31. The method according to claim 30, wherein the at least one jointing stone is longer than the cutting edge plus the length of the relative stroke.

EVIDENCE APPENDIX

- NONE -

RELATED PROCEEDINGS APPENDIX

- NONE -